CHEST®

Official publication of the American College of Chest Physicians

Risks in Using Nonrigorous Spanish Translations of Asthma Questionnaires

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Chest 2007;131;1271-1272
DOI 10.1378/chest.07-0180

ISSN:0012-3692

Table 1—*Rating of Clinical Areas for Quality of Training During Fellowship, Importance in Current Work Position, and Priority for Improvement in Training*

Clinical Areas	Column A, Clinical Training Quality, Mean Response* (Rank Order)	Column B, Importance in Current Position, Mean Response* (Rank Order)	Column C, Training Gap (Column B Minus Column A, Difference (Rank Order)	Column D, Top Five Training Priorities†, % of Respondents Ranking This Clinical Area (Rank Order)	Column E, Training Priority Score, Sum of Rank in Columns B, C, and D (Rank Order for This Cumulative Score)	Column F, Technical Training Quality, Mean Response* (Rank Order)
Arterial blood gases	4.60 (1)	4.53 (1)	− 0.07 (13)	26.7 (7)	21 (6)	4.12 (2)
Bronchoscopy	4.50 (2)	4.37 (2)	− 0.13 (14)	43.3 (5)	21 (6)	4.17 (1)
Ventilator management	4.42 (3)	4.43 (3)	+ 0.01 (9)	57.7 (3)	15 (2)	4.08 (3)
Spirometry	4.21 (4)	4.29 (4)	+ 0.08 (7)	39.1 (6)	17 (3)	3.63 (4)
Bronchodilator response	4.17 (5)	4.03 (5)	− 0.14 (15)	9.4 (15)	35 (14)	3.54 (5)
Diffusing capacity	3.91 (6)	3.91 (6)	0.00 (10)	16.4 (12)	22 (8)	3.29 (6)
Lung volumes, gas dilution	3.86 (7)	3.64 (9)	− 0.22 (16)	8.8 (16)	41 (15)	3.26 (7)
Lung volumes, body box	3.70 (8)	3.65 (8)	− 0.05 (11)	21.0 (10)	29 (11)	3.15 (8)
Lung compliance	3.59 (9)	3.62 (10)	+ 0.03 (8)	18.8 (11)	29 (11)	3.15 (8)
Airway challenge testing	3.41 (10)	3.55 (12)	+ 0.14 (6)	21.4 (9)	27 (10)	2.99 (11)
Respiratory muscle strength	3.39 (11)	3.58 (11)	+ 0.19 (5)	23.4 (8)	24 (9)	3.02 (10)
Airways resistance	3.38 (12)	3.32 (16)	− 0.06 (12)	14.8 (14)	42 (16)	2.95 (13)
Sleep-disordered breathing	3.09 (13)	3.73 (7)	+ 0.64 (2)	52.5 (4)	13 (1)	2.90 (14)
Cardiopulmonary exercise testing	3.17 (14)	3.54 (13)	+ 0.37 (4)	61.9 (1)	18 (5)	2.99 (11)
Six-minute walk/step/ shuttle testing	2.92 (15)	3.39 (15)	+ 0.47 (3)	16.0 (13)	31 (13)	2.70 (15)
Pulmonary rehabilitation	2.74 (16)	3.52 (14)	+0.78 (1)	58.3 (2)	17 (4)	2.57 (16)

*1 = inadequate, 2 = fair, 3 = adequate, 4 = good, and 5 = excellent.

†Subjects were asked, "If you could improve the quality of training for current trainees in five of the areas, which would you choose? Please choose only five, and rank 1 through 5 with 1 being your first choice." This column indicates the percentage of respondents including the clinical area among their top five.

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To the Editor:

Taking into account the substantial growth occurring among Latino populations in the United States, and the fact that some Latino populations are especially vulnerable for asthma, correctly identifying asthma cases and symptoms among persons in these populations is critical. We evaluated potential problems inherent to the English-Spanish translation of asthma questionnaires, in particular the word "wheeze," which is key to the performance of most of these instruments.[1]

Two groups of participants were recruited (60 bilingual [Spanish-English] and 40 Spanish monolingual; all were New York residents who were parents of children with asthma-related respiratory problems). Institutional review board clearance was obtained. Bilingual participants were asked to (a) translate the word "wheeze" to Spanish, and (b) to retrotranslate a nonrigorous Spanish translation of the word "wheeze" ("ronquido"). This translation was furnished by an accredited translator who was experienced in medical translation. The translator was familiar with the vernacular of the population in the area where such nonrigorous translation was tested, which was a predominantly Dominican neighborhood in New York City that is affected by asthma rates substantially greater than those reported nationally.[2] This nonrigorous translation was also checked for accuracy by a second accredited translator. Monolingual participants were asked to describe asthma symptoms in Spanish. As expected, due to the local demographics of the recruitment area, the majority of our participants (84 of 100 participants) were Dominican.

The word "wheeze" presented problems for bilingual participants whose primary language was English; 9 of 39 of these respondents (23%) could not translate "wheeze" into Spanish.

The 30 participants who translated it provided 12 different translations for this word (*eg*, "tight chest," "whistle in the chest," "congested breathing," "hoarseness," "asphyxiation," "asthma," "snoring," and "suffocation"). Only two of these respondents (7%), agreeing with the nonrigorous translation, translated "wheeze" as "ronquido." In general, the nonrigorous translation fared poorly among most bilingual participants; 10 of 39 primary English speakers (26%) could not translate it back into English. The 29 participants who translated it back into English provided 12 different translations for the word "ronquido" (*eg*, "snore," "phlegm," "raspy," "hoarse," "cough," "whistling," "congestion," and "wheeze"). Only 6 of 39 of these respondents (15%), agreeing with the nonrigorous translation, translated "ronquido" as "wheeze."

The nonrigorous translation fared worse among respondents whose primary language was Spanish, as none of the 21 respondents agreed with it. The word "wheeze" also presented problems for this group. Six respondents could not translate the word into Spanish. The remaining 15 respondents provided six different translations. Responses from monolingual respondents describing asthma symptoms also were wide-ranging. After conducting this survey, a third certified translator, who was blinded to our results and was also based in the recruitment area, was consulted. She suggested that the more technical translation of "wheeze" is not "ronquido," but "sibilancia." However, none of the 60 bilingual respondents we interviewed translated "wheeze" as "sibilancia"; and none of the 40 monolingual respondents used this term to describe asthma symptoms.

Combined, these results suggest that it is quite difficult to define a single best word, in vernacular Spanish, to translate "wheeze." These difficulties inherent in cross-linguistic (*ie*, Spanish-English) measurements of asthma may have implications for asthma research that relies on responses to wheeze-related questions. Our observations suggest that nonrigorous Spanish translations (defined as relying on one accredited translator, and neither tested by retrotranslations nor piloted among targeted cohorts) may lead to the misinterpretation of asthma questionnaires and diagnoses. Rigorous translation may be a necessary standard in the field.

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The authors have reported to the ACCP that no significant conflicts of interest exist with any companies/organizations whose products or services may be discussed in this article.

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